

ABSTRACT OF THE DISCLOSURE

A phase change optical disc that has a multilayer structure. The structure is sequentially laminated on the transparent substrate starting with a first dielectric layer; a phase control layer, the phase control layer having two areas are defined in a laser spot in which the irradiation with a reproduction beam causes a phase difference that alters the optical path of the reflected reproduction beam passing through the areas; a second dielectric layer; the phase change recording layer, which reversibly converts between a crystal phase and an amorphous phase by irradiation with a recording beam; a third dielectric layer; a reflective layer; and a protective layer. An alternative embodiment includes a fourth dielectric layer disposed between the reflective layer and the protective layer. The information of a recording mark can be accurately reproduced due to the phase difference between adjacent areas on the phase control layer, thereby reducing the size of the effective spot of the reproduction beam. Accordingly, the mixing of the signals between adjacent marks or adjacent tracks is decreased, thereby realizing a high density optical disc and improving the resolution power of a reproduction signal.